AQUATIC CONTROL TECHNOLOGY, INC.

October 15, 2012

Mr. David J. Rousseau, Director
NH Division of Pesticide Control
PO Box 2042
Concord, NH 03302-2042

Re: 2012 Milfoil Treatment at the Mine Falls Mill Pond and Canal, NH - SP-099

Dear Mr. Rousseau:

In accordance with NH Pesticide Rules 603.03, Aquatic Control Technology, Inc. is submitting a written year-end report for the herbicide treatment of portions of the Mine Falls Mill Pond and Canal in Nashua. This treatment was conducted in accordance with the conditions of Special Permit # SP-099 issued by the Division of Pesticide Control.

This project was funded by DES as a Research Grant. The objective of the treatment was to evaluate the efficacy of the contact herbicide Clipper (flumioxazin) to control several submersed invasive aquatic weeds. Comprehensive point-intercept vegetation sampling was performed pre-treatment; 4 weeks post-treatment and 12 weeks post-treatment. Full results of the study will be provided in the project completion report that should be completed by the end of the year. The following report summarizes the treatment program in compliance with the conditions of Special Permit #SP-099.

Project Summary

Project : (Site / Location)	Mine Falls Mill Pond and Canal / Nashua
Special Permit #:	SP-099
Pre-Treatment Survey Date:	July 5, 2012 ACT / summer 2011 NH DES
Treatment Summary:	*Treatment Date:* July 21, 2012 *Herbicide:* Clipper (flumioxazin) - EPA Reg. No. 59639-161 *Target Species:* fanwort (*Cabomba caroliniana),* variable milfoil (*Myriophyllum heterophyllum*), Eurasian watermilfoil (*Myriophyllum spicatum)* *Area Treated:* 40.5 acres *Application Rate:* 3.7 lbs/acre targeting 100 ppb in pond; 2.1 lbs/acre targeting 100 ppb in canal *Total Herbicide Used:* 119 lbs *Herbicide Application:* Airboat with calibrated subsurface injection system
Post-Treatment Survey Date:	July 19, 2012 and September 13, 2012
Control of Target Species:	▪ The majority of the targeted fanwort and milfoil biomass was controlled following the initial post-treatment inspection. The only area where any surviving plants was immediately downstream of the dam/inflow from the Nashua River.

Aquatic Control Technology, Inc.
11 John Road • Sutton, MA 01590-2509 • (508) 865-1000 • Fax (508) 865-1220 • info@aquaticcontroltech.com

Herbicide Residue Testing Results	▪ Samples were collected and analyzed by Granite State Analytical in accordance with the permit requirements – 3 and 5 days post treatment. ▪ Results of the 3 day were: **3.9** µg/L ▪ Results of the 5 day were: **3.6** µg/L ▪ Copies of the laboratory reports are attached
Late summer reports (DES, Assoc, etc.):	▪ By the time the late season survey was performed in mid-September, there was scattered regrowth of fanwort and milfoil seen along the edges of the pond and to a lesser degree along the edges of the canal. Overall, there was still a significant reduction from what documented pre-treatment and open-water conditions persisted throughout the majority of the pond and canal. ▪ Other aquatic plants observed in the treatment area post-treatment included: *Potamogeton robbinsii* Robbins Pondweed *Ceratophyllum demersum* Coontail *Nuphar sp.* Spatterdock *Nymphaea sp.* White water lily *Najas flexilis* Slender naiad ▪ There was noticeable reduction of several species post-treatment, but based on results from other waterbodies treated in 2011, we expect that most of these plants will fully recover within one growing season.
Ongoing Management Recommendations:	▪ Clipper (flumioxazin) was selected for this site for several reasons: presence of fanwort, milfoil and other invasives; flow through the system; use of water to irrigate City athletic fields necessitating a short water-use restriction period. ▪ The treatment provided very effective summer-long control of the targeted invasive species. Some regrowth was seen around the edges by late summer. There appeared to be more variable milfoil than fanwort or Eurasian watermilfoil. We have seen this at other sites treated with Clipper and believe that the extensive root structures of variable milfoil facilitate its more rapid recovery. We do expect to see reduced growth of fanwort in 2013. ▪ Evidence from other sites that we managed with Clipper in 2011 and again in 2012, suggests that re-treatment of recovering fanwort may extend the duration of control. Other herbicides or a combination of herbicides may be necessary to provide extended control of milfoil. ▪ Applicant should follow recommendations provided in the Long-Term Management Plan (LTMP)

Overall, we believe that the Clipper herbicide treatment of the Mine Falls Mill Pond and Canal in 2012 was very successful and it demonstrated that Clipper can be used to effectively control several submersed invasive species in systems with flow and where water is used for irrigation purposes.

We trust that this report satisfies the reporting requirement for the 2012 herbicide treatment program performed at the Mine Falls Mill Pond and Canal.

Please feel free to contact our office if you have any questions or require additional information.

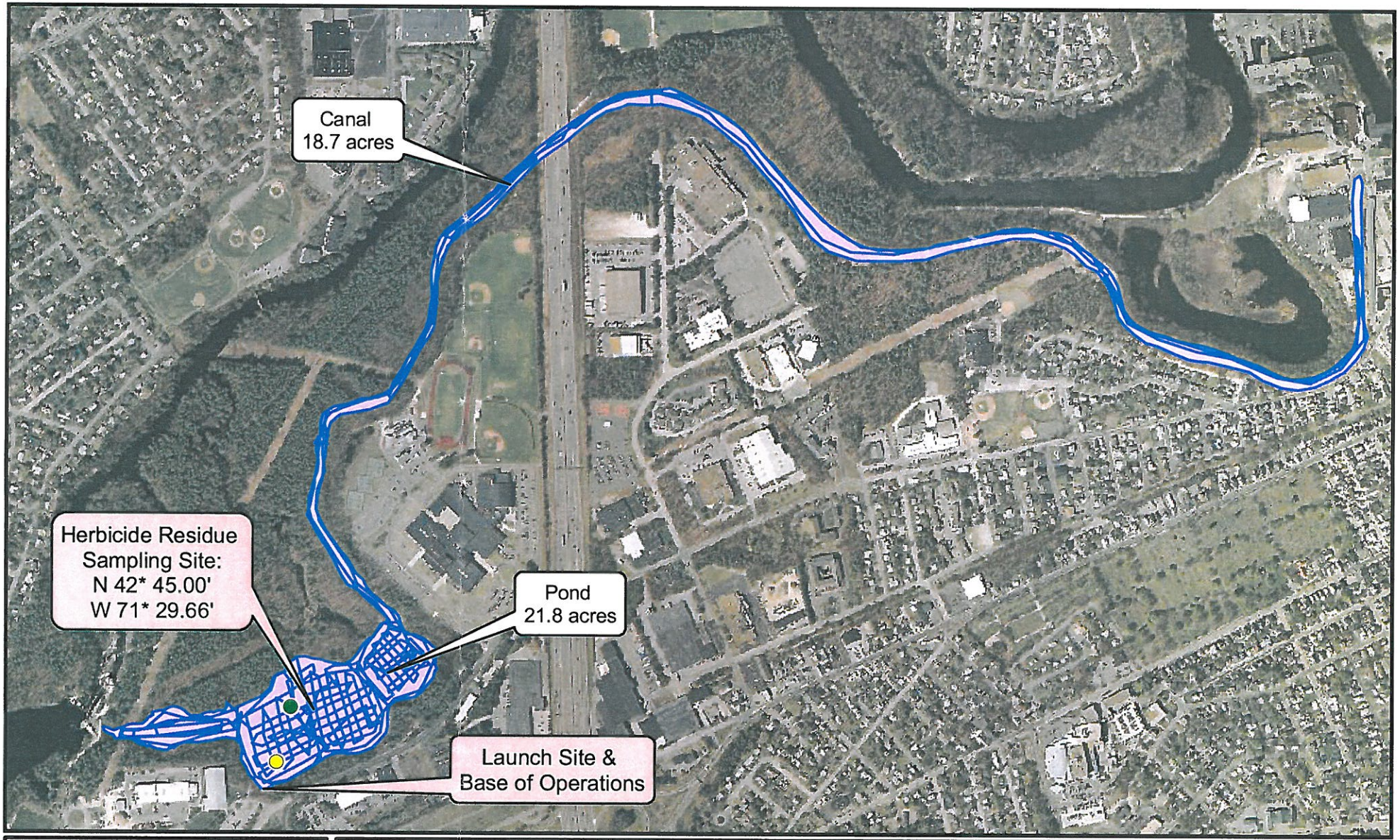
Sincerely,

AQUATIC CONTROL TECHNOLOGY, INC.

Marc Bellaud
Vice President/Senior Biologist

Enclosures: Actual Treatment Map
Laboratory Reports for post-treatment herbicide residue testing

cc: Amy Smagula, NH DES Water Division (via email)
Nick Caggiano, Director, Nashua Parks and Recreation Department
Carol Henderson, NH Fish and Game Department (via email)
Melissa Coppola, DRED (via email)



MINE FALLS POND & CANAL
Nashua, NH

2012 ACTUAL
Treatment Map

FIGURE:	SURVEY DATE:	MAP DATE:
	6/21/12	10/10/12

Legend:

mi!!NH_actualtreat_062112

minefalls_treat_2012
Treatment area: 40.5 acres total (Pond 21.8 acres, Canal 18.7 acres)

3 day sample location

5 day sample location

0 500 1,000 2,000 3,000 Feet

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AQUATIC CONTROL TECHNOLOGY, INC.
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Granite State Analytical, LLC

Main Office / Laboratory
22 Manchester Rd. / Rt. 28
Derry, NH 03038
(603) 432-3044
Lab Contact: Donald A. D'Anjou, Ph. D., Laboratory Director

DATE PRINTED: 7/19/2012 **RECEIPT TEMPERATURE:** ON ICE 6.5 CELSIUS

CLIENT NAME: Aquatic Control Technology, Inc.
CLIENT ADDRESS: 11 John Road
Sutton, MA, 01590

CERTIFICATE OF ANALYSIS

SAMPLE ID#: 1206-00713-001
SAMPLED BY: Lyons, John by GSA QCM App. I
SAMPLE SITE:
DATE & TIME COLLECTED: 6/24/12 2:54 pm
DATE & TIME RECEIVED: 6/25/12 4:37 pm
SAMPLE LOCATION: Mine Falls Canal/Pond

Test Description	Results	Test Units	LOQ	Analysis Method	Analyst	Date & Time Analyzed
Flumioxazin	**3.9**	ug/L	0.5	S150	SUB	7/2/12 22:20

The results presented in this report relate to the samples listed above in the condition in which they were received. LOQ = Limit of Quantitation.

*** NELAC Accredited Analysis**
A list of our certifications is available upon request.

ACCREDITED IN ACCORDANCE WITH nelac

Donald A. D'Anjou, Ph.D.
Laboratory Director

This analysis meets NELAC requirements except as noted.

ACT, Inc. Sampling Information Sheet for NH DPC Sampling Requirements

(Please take time to fill out all information possible)

PROJECT (i.e. Waterbody, Town, Cove, etc.): Milne. falls Canal / Pond

Name of Person Sampling: John Lyons

Name of Lab performing analysis: Granite State Analytical, LLC

Sampling Site Description: middle of the pond

Date of Sample: 4/24/12 **Time of Sample:** 12:54

ACT Provided GPS Coordinates: N 42° 45.00'
W 71° 29.66'

GSA Actual GPS Coordinates: N 42° 45.01'
W 71° 29.95

W. 71° 29.66' would've been in the woods

GPS Accuracy:

Sampling Depth (feet off bottom): 3'

Date Sample Shipped to Lab (if applicable):

15 Day ☐ 30 Day ☐ 3 Day ☐ 5 Day ☐ Other: 3rd day

Herbicide Tested For (Circle): 2,4-D Triclopyr Diquat Glyphosate Imazapyr Other: Flumioxazin

Sampling Notes:

*Email herbicide residue results **ASAP** to: pbeisler@aquaticcontroltech.com, mbellaud@aquaticcontroltech.com & aellis@aquaticcontroltech.com

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PROJECT (i.e. Waterbody, Town, Cove, etc.):

Name of Person Sampling:

Name of Lab performing analysis: Granite State Analytical, LLC

Sampling Site Description:

Date of Sample: 6/ **Time of Sample:**

ACT Provided GPS Coordinates: N
W

GSA Actual GPS Coordinates: N
W

GPS Accuracy:

Sampling Depth (feet off bottom):

Date Sample Shipped to Lab (if applicable):

15 Day ☐ 30 Day ☐ 3 Day ☐ 5 Day ☐ Other:

Herbicide Tested For (Circle): 2,4-D Triclopyr Diquat Glyphosate Imazapyr Other:

Sampling Notes:

*Email herbicide residue results **ASAP** to: pbeisler@aquaticcontroltech.com, mbellaud@aquaticcontroltech.com & aellis@aquaticcontroltech.com

Granite State Analytical, LLC

Main Office / Laboratory
22 Manchester Rd. / Rt. 28
Derry, NH 03038
(603) 432-3044
Lab Contact: Donald A. D'Anjou, Ph. D., Laboratory Director

DATE PRINTED: 7/19/2012 **RECEIPT TEMPERATURE:** ON ICE 24.5 CELSIUS

CLIENT NAME: Aquatic Control Technology, Inc.
CLIENT ADDRESS: 11 John Road
Sutton, MA, 01590

CERTIFICATE OF ANALYSIS

SAMPLE ID#: 1206-00738-001
SAMPLED BY: Granite State Analytic
SAMPLE SITE:

DATE & TIME COLLECTED: 6/26/12 2:30 pm
DATE & TIME RECEIVED: 6/26/12 3:17 pm
SAMPLE LOCATION: Mine Falls Canal/Pond

Test Description	Results	Test Units	LOQ	Analysis Method	Analyst	Date & Time Analyzed
Flumioxazin	**3.6**	ug/L	0.5	S150	2124	7/2/12 22:51

The results presented in this report relate to the samples listed above in the condition in which they were received. LOQ = Limit of Quantitation.

*** NELAC Accredited Analysis**
A list of our certifications is available upon request.

Donald A. D'Anjou, Ph.D.
Laboratory Director

This analysis meets NELAC requirements except as noted.

ACT, Inc. Sampling Information Sheet for NH DPC Sampling Re

(Please take time to fill out all information possible)

WO NUMBER	Sample
1206-00738	001

Sample 6/26/2012 2:30:00 PM
Mine Falls Pond
PK

PROJECT (i.e. Waterbody, Town, Cove, etc.): Mine Falls Pond

Name of Person Sampling: Kathleen McDermott

Name of Lab performing analysis: Granite State Analytical, LLC

Sampling Site Description: Launched from ramp Sampled about 1/25th across pond from shore

Date of Sample: 6/26/12 **Time of Sample:** 2:30

ACT Provided GPS Coordinates: N 42° 45.000' W 71° 29.66'

GSA Actual GPS Coordinates: N 42° 44.951' W 071° 30.00'

GPS Accuracy: 26 Feet

Sampling Depth (feet off bottom): ~3'

Date Sample Shipped to Lab (if applicable):

15 Day ☐ 30 Day ☐ 3 Day ☐ 5 Day ☒ Other:

Herbicide Tested For (Circle): 2,4-D Triclopyr Diquat Glyphosate Imazapyr (Other: Flumioxazin)

Sampling Notes: Sample from middle of water column

*Email herbicide residue results ASAP to: pbeisler@aquaticcontroltech.com, mbellaud@aquaticcontroltech.com & aellis@aquaticcontroltech.com

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PROJECT (i.e. Waterbody, Town, Cove, etc.):

Name of Person Sampling:

Name of Lab performing analysis: Granite State Analytical, LLC

Sampling Site Description:

Date of Sample: **Time of Sample:**

ACT Provided GPS Coordinates: N W

GSA Actual GPS Coordinates: N W

GPS Accuracy:

Sampling Depth (feet off bottom):

Date Sample Shipped to Lab (if applicable):

15 Day ☐ 30 Day ☐ 3 Day ☐ 5 Day ☐ Other:

Herbicide Tested For (Circle): 2,4-D Triclopyr Diquat Glyphosate Imazapyr Other:

Sampling Notes:

*Email herbicide residue results ASAP to: pbeisler@aquaticcontroltech.com, mbellaud@aquaticcontroltech.com & aellis@aquaticcontroltech.com